Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	18 OCT 2022
Team ID	PNT2022TMID36162
Project Name	Project – fertilizer recommendation for diseases prediction
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Functional requirements	Leaf pictures from the Plant Village dataset, We train a deep convolutional neural network to identify 14 crop types and 26 illnesses from 54,306 photos of damaged and healthy plant leaves
FR-4	proposed solution	Python's CNN model has a 96 percent accuracy rate for detecting leaf disease automatically.
FR-5	Future scope	Expanding the model to include the diagnosis of more leaf diseases would be advantageous. Expansions, such as displaying the proportion of the leaf that is damaged, are possible.
FR-6	Implementation	Deep learning is extensively utilized because it enables the computer to discover the best features on its own, without the need for human intervention.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Capable of mobilizing elementary or fixed K into a usable form to the plants.
NFR-2	**Security**	Diseases in leaves are spread by microorganisms such as insects, pests, fungi, bacteria, and viruses. The entire plant is harmed when they consume the top and bottom of the leaf. There must be an early detection of leaf diseases for future agricultural losses to be avoided.
NFR-3	**Reliability**	By implementing an automated agricultural inspection, Farmer may be able to provide better

		and more precise output. The quality of the various products can be improved. In agriculture, it's critical to be able to predict which crop will be afflicted. We are indirectly contributing to the improvement of crop quality through this work.
NFR-4	**Performance**	A method for detecting the disease-causing Yellow Vein Mosaic Virus in okra leaf photos by extracting the veins from the leaves and utilizing a Naive Bayesian classifier
NFR-5	**Availability**	Yellow Vein Mosaic Virus (YVMV) is the most common okra disease, and it is spread by white flies (Bemisiatabaci). Image processing, K-means and a Naive Bayesian classifier were used to detect and categorize the presence of YVMV illness in okra leaf.
NFR-6	**Scalability**	The solution given increases the food productivity that is increases in quantity and decrease the food scarcity.